

Effects of Settlement on the Land

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313 The great wooden gates that used to guard the openings of every city wall
648 demonstrate the importance of the lumber trade. Only fragments of these gates
171 still exist, but it is certain that most of them were made of cedar. Logging operations were greatly expanded by the Spanish after the Rifian tribes had been pacified. It is not an exaggeration to say that the mineral deposits and cedar forests of northern Morocco were the only compensations for Spain's investment in colonial prestige. Reliable estimates of the amount of timber cut since the beginning of the protectorate cannot be found, possibly because the Spanish claimed to be conserving and restoring the forests in their zone. With the backing of military force, the Spanish were able to exercise some control over cutting by the native population, but their own work proceeded without interruption or apparent regulation. Spanish officials point out that the forests being exploited were private property and that the forestry service was concerned only with public domain.

In 1956 sawmills operated throughout the year at Tetuán and Targist, and during the summer months trucks heavily loaded with cedar logs could be seen on every mountain road. The fir forests on Jbil Tisuka and Jbil Leshab had not yet been heavily logged when Spanish "protection" came to an end, but the deciduous oaks on Jbil Buhashim had been cut in quantity for use as railroad ties. These operations may have been a brief chapter in the history of the Moroccan forest, but it is probable that the Spanish, with modern equipment, cut more trees in a decade than the local tribesmen could destroy in a century. The effects of Spanish logging are strikingly evident in the Sanhajan highlands, especially on Adrar Dahdoh, Adrar Tidighin, and Adrar Tizi Ifri.

313 This harsh judgment applies only to the exploitation of cedar and the deciduous
171 oaks. A modest amount of reforestation was undertaken. A plantation of
[189] *Eucalyptus* was established north of Larache; Aleppo pines were planted near Rincón, Alhucemas, Nador, and Melilla; and an effort was made to prevent premature stripping of the cork oak.*

Profiting from long experience in Algeria, the Service des Eaux et Forêts carried out an elaborate program in French Morocco. The system advocated and partly enforced was based upon periodic and progressive thinnings, which were intended to reconcile the interests of the tribesmen with good forestry practice. If effectively enforced, this method would have permitted the production of fuel without waiting for the normal age of exploitation, and would have improved pastoral conditions by facilitating the movement and supervision of livestock."

314 Tannin is extracted from the roots and bark of all the Moroccan oaks, and
171 this operation frequently results in mutilation or death. The cork oak is especially
311 vulnerable, for tannin is scraped from the delicate inner bark immediately after the corky tissue has been removed. Complete girdling destroys trees, and death may result if more than half of the circumference is damaged." The tanners of Marrakech have been responsible for extensive deforestation in the

[113] *The program planned by the Spanish forestry service is described in González Vázquez, *op. cit.*, pp. 97-185, cited in note 34; and J. Ruiz de la Torre, *La vegetación natural del norte de Marruecos y la elección de especies para su repoblación forestal* (Larache: Centro de Investigaciones Forestales, 1956).

[113] *For a brief account of French management, see J. P. Challot, "L'homme et la forêt marocaine," *Rev. des Eaux et Forêts*, 84 (1946), 233-261.

*Boudy, *op. cit.*, II (fasc. I), 47 ff., cited in note 5.